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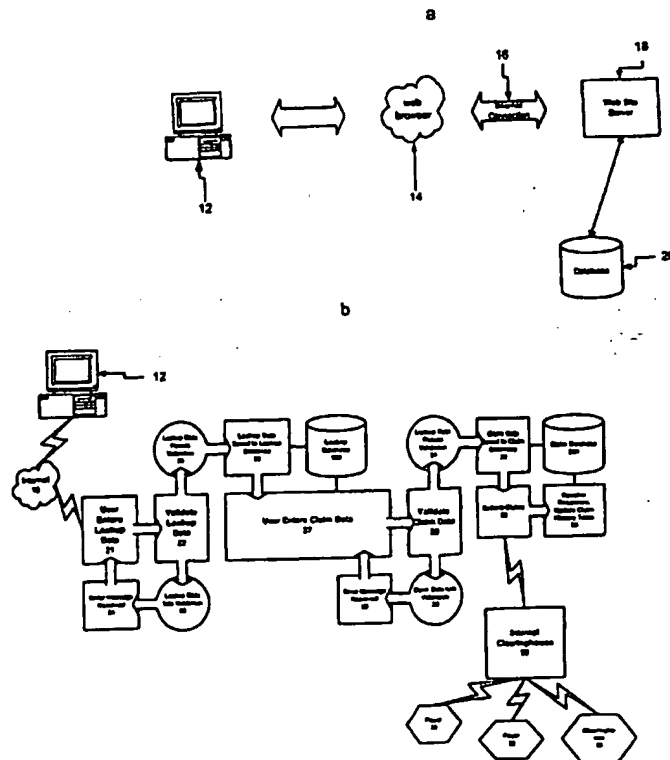
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(54) Title: WEB BROWSER BASED BILLING SYSTEM FOR HEALTH CARE PROVIDER CLAIMS

(57) Abstract

A web browser (14) based billing system for health care provider claim submission is disclosed wherein the provider connects directly to the system of the present invention over an open network utilizing browser software. A site server (18) is provided which incorporates the databases (20) of the present invention and allows the information provided by the health care providers to be associated directly with claim information, provider, procedure, diagnosis, insured and patient data. The system of the present invention requires only a web browser (14) interface for utilization of the site services and takes the claim data for formatting and later submission to a third party claim processing clearing house or direct submission to the third party payer. The system of the present invention does not require the health care provider to support specialized software mandated and designed just for claim submission as all data and support software is supplied from the site server (18).



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## WEB BROWSER BASED BILLING SYSTEM FOR HEALTH CARE PROVIDER CLAIMS

### **BACKGROUND OF THE INVENTION**

#### 1. Field of the invention

The present invention relates to submission of health care provider claims from a remote user computer and particularly submission and formation of submitted claims through the internet interfaced with standard internet web browser compatible software.

#### 2. Discussion of the prior art

Previously, submission of health care provider claims has been done either through the use of paper filings or through the use of proprietary network software. Over 1.6 billion claims were filed by physicians on paper in 1998. Additionally, a significant number of claims were submitted to third party payers via electronic means. Electronic submission has required use of client software specifically installed on the clients computer and intended for the sole purpose of the submission of claims electronically to a particular claims clearing house. These electronic submissions also utilize either dedicated network lines or require batch submission of provider claims to the clearing house directly from the client computer. The drawbacks to these prior art electronic submissions systems lies in the fact that they require dedicated software and communication lines in order to transmit the claims information. These types of systems have historically been much more expensive to use and maintain as software upgrades and other compatability issues continually require expenditure of funds to keep up with the technology and other claim submission issues. Further, continued submission of paper claim forms will eventually be phased out due to the increased efficiency of electronic filings as well as to mandated government regulations. As such, a general trend in the industry is to provide more and more services and products in the dedicated software and communication claims submission area and not specifically in the area of open software architecture. Such a failure has generated significant need in the industry to provide open software architecture for health care provider claims submissions via an open network.

Further issues which require resolution in prior art systems is error checking of claim data entered by the users. In standard systems, it is common to submit claim information in batch form to a third party clearing house wherein the clearing house provides an error checking function in order to ensure that the claim data is accurate. Often times this error checking function requires multiple changes in the claims data in order to ensure that the information meets the requisite criteria from either the payer or with regard to HCFA rules. All of these communications which correct claim data therefor increase the pendency of submitted claims and slow down the entire process. It is therefor desirable to provide a real time error checking system in addition to a submission system wherein the clearing house rules may be applied in real time fashion to the data entered into the claims submission process.

### **SUMMARY OF THE INVENTION**

The present invention is directed toward an electronic health care claim submission system which is entirely web browser based and which combines multiple pre-defined databases in order to make entry of claim and provider information more efficient. One object of the present invention is thus to provide an efficient and easily definable data entry table. Another object of the present invention is to provide a health care claims submission system which relies on the open software architecture commonly found on the internet and thus allows any entity or individual with an internet browser to utilize the claims submission system.

A further object of the present invention is to provide an open software architecture claim submission system which has data correction and error checking ability inherent in the claims submission process screen forms.

An additional object of the present invention is to combine multiple databases containing information on providers, prior claims, insurance information, insured, insured information, patients, third party payers, claim submission rules and other rules information while securely transmitting such information over an open network.

A further object of the present invention is to provide multiple methods of billing and payment to the health care provider through the use of a web browser compatible site.

A further object of the present invention is to provide a health care provider claim submission system wherein particular rules relating to claim submission, required data and other matters may be defined by the health care provider.

An even further object of the present invention is to provide a claim submission system fully compatible with standard internet web browser software which does not require dedicated software tailored specifically toward health care claim submission on the providers computer systems.

An additional object of the present invention is to provide a health care claim submission system which is fully internet browser compatible and which has three levels of security protection securing the database of information stored on the system servers database.

An additional object of the present invention is to provide a health care submission system which is fully internet browser compatible wherein records stored in the systems databases are inter-related with each other so that particular records are associated with specific data elements such as insured and patient diagnosis, facility and provider, among others.

These and more objectives are met utilizing the web-based browser billing system for health care provider claim submission of the present invention.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

A better understanding of the invention will be had upon reference to the following description in conjunction with the accompanying drawings in which like numeral refer to like parts and wherein;

Figure 1a is a schematic overview of the data flow and connectivity for the system of the present invention;

Figure 1b is a more detailed schematic overview of the data flow and procedures for the system of the present invention;

Figure 2 is a schematic overview of the definition of the look-up database of the present invention;

Figure 3 is a schematic overview of the claims database of the present invention;

Figure 4 is a representation of the options available on the system of the present invention;

Figure 5 is a flow chart detailing the overall process for use with the system of the present invention;

Figure 6 is an overview of the patient set up procedure;

Figure 7 is an overview of the provider setup procedure of the present invention;

Figure 8 is a schematic detailing the procedure for policy holder and payer set up within the system of the present invention;

Figure 9 is a schematic overview of the functional elements for the claims database of the present invention;

Figure 10 and is a flow chart depicting entering a new claim on the system of the present invention;

Figure 11 is a flow chart representing the claim entering process on the system for the present invention;

Figure 12 is a representative page on the system of the present invention wherein provider information is entered into the appropriate database;

Figure 13 is a representative page on the system of the present invention wherein policy holder information is correctly associated with insurance or payer information;

Figure 14 is a representative page for claim entry on the system of the present invention;

Figure 15 is a representative page on the system of the present invention wherein a new patent is entered;

Figure 16 is a flow chart detailing review of claims process on the system of the present invention;

Figure 17 is a representative page on the system of the present invention wherein the claims are presented to the user; and,

Figure 18 is a representative page of the system of the present invention wherein a new policy holder is entered into the database.

#### **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT**

The web browser based billing system for healthcare provider claims of the present invention is schematically shown in Figure 1a. Computer 12 of a healthcare provider contains a web browser interface 14 for browsing web based servers on the internet or other open network. The web browser interface 14 may be any standard web browser interface which is capable of interpreting HTML or similar code such as, for example Internet Explorer or Netscape Navigator series of browsers. The web browser interface 14 is executed on the computer and is utilized to interface with the web site server 18 of the claim provider. The benefit of utilizing a claim provider server 18 which may be interfaced with any web browser is that there are very limited compatibility issues with users as long as they are connected to

the internet. Further, common utilization of a web browser interface for submission of healthcare provider claims over the internet provides the ability to incorporate significant security features as well as interfacing the website server with multiple databases 20. Healthcare providers may be connected to the internet through a standard connection 16 shown in Figure 1a, any of which may be typical connections of a client computer connected to the internet and accessing a web site server.

In particular, with the present invention, a healthcare provider claims submission system 10 is provided which is completely interfaced utilizing an internet web browser. The internet web browser is the only software required for submission of claims through the web site server 18. As shown in Figure 1a, data flow from the computer 12 to the web site server 18 is in both directions and is complemented with a connection from the web site server 18 to the database storage 20. Particularly beneficial to the design of the present invention is the ability to dynamically change the interface or claim submission forms which appear on the web site server 18 without requiring continual updates of software and other technology on the client computer 12. This is a significant enhancement over prior art systems in that dynamic changes can be implemented in the claim submission process without requiring user intervention apart from merely logging on to the web site server 18.

As is shown in Figures 1a and 1b, an overall schematic of the data flow is shown wherein the web browser interface 14 communicates with the web server 18. Data is entered through the web browser which communicates directly to the server 18. Web server 18 is connected to multiple tables stored in database 20. The main database, as shown in Figure 1b, are the lookup database 100 and the claims database 200. Populated within each of these databases are a plurality of tables which will be defined herein. These databases contain information regarding patients, providers, insurance policy, facilities, referring physicians, payer information and claim information entered for each claim entry.

Web server 18 accesses lookup database 100 and claim database 200, both of which contain a plurality of tables. Direct connection of the web server 18 to the multiple databases, tables and the required rules set for entering claims allows for real time validation of claim information.

As an overall schematic of the data flow, the provider enters a claim through browser 14 which is forwarded to the web server 18. Web server 18 verifies the data according to the various databases and tables which are available to it and which are correlated with the



appropriate healthcare provider. The healthcare provider may incorporate different rules required for entering various claims for that particular healthcare provider's procedures, all of which may be different for the various providers utilizing the system 10 of the present invention. Appropriate claim information after, submission to the web server 18, is verified and formatted in order to convert the data into valid claim submission format utilizing a paper free ECDI gateway to clearinghouse 50. The clearinghouse 50 formats the claim so that the data entered by the medical healthcare provider is in appropriate form for acceptance by the primary medical clearinghouse 50 or third party payer 38 and 39 shown in Figure 1b. The internal clearinghouse 50 validates and then formats submitted claims according to predefined rules which are provided by payers 38 or third party clearinghouses 39. These rules may be completely independent of the format for data entry allowed by the healthcare provider or defined by the system 10.

A particular benefit of the overall design of the system 10 of the present invention shown in Figures 1a and 1b is that it allows the healthcare provider to submit claims according to predefined rules and required data parameters which may be independent of the claim submission format required by either a third party clearinghouse 39 or payer 38. Further, the claim submission process may be dynamically changed by the web site server 18 in such a way that regardless of the changes incorporated in the system design or interface, all of the data entry requirements are compatible with each other due to the web browser interface and its ability to be dynamically updated and changed independent of the requirements of the web site server 18 or as may be defined by the healthcare provider. Further, utilization of a generic third party interface which supports HTML or other internet based languages such as Java or Java script, to name a few, allows the system to be updated solely based upon the code content located on the web server 18 and completely independent of the browser interface 14 located on the healthcare provider computer 12.

Turning to Figure 1b, a generalized overall schematic of the claim entry process is detailed. Further detailed information of these functions will be provided herein. The computer 12 within the healthcare provider office is connected through the internet 16 and contains a web browser interface 14 thereon. The system of the present invention 10 resides upon the web site server 18 shown in Figure 1a. Upon entry into the system 10 of the present invention by user names and password, for example, the user enters the appropriate data contained within the lookup database 100 at step 21. A further description of the appropriate

lookup data will be described herein. Upon entry of the lookup data, validation occurs of the information entered at step 22 occurs and if the lookup data fails the validation process at step 24, the user is required to reenter the particular data information. Upon lookup data validation at step 25, the appropriate information is saved in the lookup database 100 and the user may then begin utilizing the lookup data for entry of claim information.

Claim entry at step 27 allows the healthcare provider to enter claim information based upon previously entered lookup data which details patient information, policy holder information, specific insurance, provider information and other detailed information required in the claims submission process. In the entry of claim data at step 27, additional information is entered which specifically states the requisite information mandated for healthcare provider claim submission to third party payors 38. At step 28, claim entry information is validated and if the claim data fails validation at step 29, an error message is received and the user is invited to reenter information. Such validation may occur in real time utilizing a real time claim data validation data set or may occur during a batch submission of the claims to the internal clearinghouse.

If the claim data passes validation at step 31, the claim data is saved in the claim database 200 at step 32. Subsequent to saving the claim information, claims may be submitted independently at step 33 for review by clearing house 50 which reviews the claim information for valid data type and service information as well as other requisite information required by each of the payers. Clearing house 50 may then update the submitted claim status contained within claim database 200 such that status information is stored in a history table associated with each claim at step 34.

As can be determined from the schematics of Figures 1a and 1b, the procedure for entering claim information consists of a plurality of steps set forth in Figure 5. Initially, at step 50, healthcare providers must be set up within the lookup database 100. As shown in Figure 5, next in the overall procedure is the requirement at step 52 for the healthcare provider to define the policy holders and other information. After the policy holder information has been entered, each patient information must be entered at step 54 tying all of the policy information to specific patients which are being treated by the healthcare provider. Once the patient information is entered at step 54, the insurance or payer information must be entered in for each patient and each policy holder. This information is entered at step 56 and links all patient information with particular insurance claim information in the lookup

database 100. After all the requisite information regarding patient, policy and insurance information is entered into the lookup database, claim data may be entered into the system at step 58 at which time the claim data, after entry, may be saved at step 60. All of the claim data entered into the system may be reviewed real time for certain basic information requirements and will be reviewed again by the clearinghouse for format and other criteria. Once the claim data has been saved, it may then be submitted for review to the clearinghouse engine 50 shown in Figure 1b. Thus, at step 64, the saved claims may be submitted for processing at clearinghouse 50 for a determination of all adequate information required by each insurance payer or by other third party clearinghouse services to which the information may be submitted.

Once the claim information is submitted to the third party payor 38 as shown in Figure 1b, information may be returned from the third party payor or from the third party clearinghouse 39 indicating formatting errors or other problems with the claims submission data or the claim may be excepted for payment. Any information received from these third party sources will be returned to the internal clearinghouse 50 which then updates the claim history table for that particular claim. Additional information regarding the overall process for claim submission and preparation will be discussed herein.

Given the overall structure of the claims entry process disclosed in Figure 1b and described in Figure 5, the lookup database 100 and claims database 200 will be described. As shown in Figure 2, the lookup database 100 is populated with a plurality of tables which include: patient information table 102; provider information table 104; policy information table 106; facility information table 108; referring physician information table 110 and payor data table 112 among others. The patient information table 102 contains specific information regarding each individual patient. Each table entry includes particular information about each patient such as name, address, contact information, date of birth and a secondary insured policy holder as well as the payor ascribed to that policy holder. An example of an entry page for new patient information is shown in Figure 15. Thus, the table record will include all relevant information as well as links to the appropriate insurance and primary policy holder. Thus, the patient information table 102 displayed contains various information regarding each patient as well as links to other tables contained within the lookup database 100.

In addition to the patient information, a policy information table 106 contains data regarding each individual policy and the relevant policy holder for that policy. Links may also be placed within the policy information table 106 to the various patients covered under the policy information table entry as well as links to payor information, insured identifier and other requisite information related to that policyholder. Thus, policy holders will be listed particularly in the policy information table 106 as well as the insurance payor for each policy contained therein. As is shown in the example page of Figure 13, a policy holder has been entered into the policy information table 106 and a insurance payor is being linked to the policy holder entry. Thus, insurance information specifically responsible for payment of claims to that policy holder is entered into the system. All of this information is retained within the policy information table 106 or linked thereto as shown in Figure 2.

Additionally, as is shown in Figure 2, provider information table 104 is stored within the lookup database 100. Provider information table 104 contains specific information regarding the healthcare provider including whether or not the healthcare provider is the billing, rendering, referring, supervising or ordering physician. An example of the relevant information requested for the provider information table entries is shown in Figure 12. Thus, each provider entry stored in the provider information table 104 seeks to associate specific information regarding the healthcare provider necessary for proper billing of any services provided to the appropriate payor. All of the provider information is appropriately stored within the provider information table 104 and retained within the lookup database 100.

As can be seen from the example web page shown in Figure 12, a provider table entry may be indicated as the healthcare provider and also as the rendering and billing provider. As shown in the sample web page of Figure 12, the provider information for each specific healthcare provider may be modified such that the provider is listed as a billing or rendering provider. In facilities where there are multiple providers, different providers may have different supervising, rendering or billing responsibilities. Thus, each table entry in table 104 may be indicated as appropriate. Further, as providers may be located at multiple facilities, a facilities table 108 is also shown in Figure 2 and all of those facilities may be linked to specific providers within the provider information table 104. Thus, providers having a plurality of facilities will have record entries within the facilities table 108 as well as specific provider information within the provider information table 104.

An additional table found within the lookup database 100 includes the referring physician table 110, which is directly linked through the provider information table 104, whereby referring physicians are recorded within the system and retained for adequate billing purposes. As some third party payors require information regarding the referring physician information, this information may be required for acceptance of claims information from third party payors. Thus, on any claim entry form, specific information regarding the patient and the referring physician as well as the specific healthcare provider will be required to be entered, all of the information pulled from the various tables described herein and retained within the lookup database 100.

Finally, as shown in Figure 2, the payer data table 112 contains specific information regarding the particular insurance payer responsible for payment of healthcare provider claims. An example web page for entry of specific payer information is shown in Figure 13 wherein the insurance information is directly linked to policy holder information which is retained within the policy information table 106. Thus, payer data entries within table 112 will be linked appropriately to the various other tables within the lookup database 100.

Turning to Figure 3, the claims database 200 of the system 10 of the present invention is comprised of a plurality of tables including: diagnosis table 202; detailed information table 204; visit information table 206 and charge information table 208 among others. In conjunction with the structure of the claims database 200, a sample claim entry web page is shown in Figure 14. As is seen therein, a claim entry within the claims database will include specific information which may include: provider; patient; rendering physician; facility; referring physician and supervising physician. Various other diagnosis information will be required for entry within the claims database 200 for each claims entry therein. As can be seen from Figure 14 this information includes diagnosis codes, specific information regarding the reason for treatment as well as detailed information regarding the date of service and codes for the claim. All of this information is stored within tables within the plurality of tables contained within the claims database 200. These entries may also include links to various other tables contained within the lookup database 100. Thus, as can be seen from Figure 14, there may be links 201 as depicted in Figure 3, which allows the entry claim information to be readily available through pull down menus as is depicted in Figure 14 for information relating to known data as provider information or other data.

Specific information required for each claim will be entered into a claim table, Claim Line Item table 205, for submission to the clearinghouse 50. The Claim line item table contains all relevant information regarding any given claim such that it is located in a single entry within the claims database 200. Such single entry location of the claim information and data allows the system of the present invention easy access to particular claim information and allows proper tracking of the claim information submitted to external third party clearinghouse and payers.

Additionally, in regards to Figure 3, a claim history information table 207 is provided to track all information regarding submitted and non-submitted claims. Thus, current status of claim data can be obtained from the table 207 to determine errors contained in the claim, whether the claim has been submitted, any responses received from the third party payers or clearinghouses, final payment of the claim or any other relevant information which can be displayed to the provider on any of the claim status screens provided. All updates and communications received and relevant to a claim is logged in the history table 207 which links directly to each unique claim submission identifier within the claim detail information table 204.

As can be seen from Figure 14, all of the relevant information for entry of a claim is entered into the system and where available, pull down menus are provided such that required values may be selected from a previously entered list. Additional information may then be entered into the claim database 200 for that specific claim and all of the claim information for that claim record may then be saved within the claim database 200 for later submission to the clearinghouse 50. Additionally, upon entry of the claim information, error checking may be conducted real time to ensure the validity of data entered into the sample page of Figure 14 and the existence of required data for submission of claims.

By allowing the healthcare provider to enter claims and save specific claim records prior to submission, unsubmitted claims may be partially entered or fully entered for review prior to submission to clearing house 50. Thus, the system will maintain within the claims database 200 saved and unsubmitted claims or partially filled claims which require additional attention by the healthcare provider prior to submission to the payer or clearing house. Additionally, the healthcare provider may review all unsubmitted claims or all claims which require attention or correction of invalid or incorrect data.

Turning to Figure 4, a review of exemplary functional aspects of the system 10 of the present invention is structured. Upon logging into the system, the user may select from three activities including maintenance activities 41, claim activities 42 and report activities 43. Obviously, additional activities or functional operations may be provided and are well within one of ordinary skill in the art to design and implement within the teachings of the system of the present invention.

Reports shown in Figure 4 and available for selection may include reports directed at clearinghouse information, payer reports, information and status on rejected claims, final payment on accepted claims and other information on claims which have been entered but which are incomplete or have yet to be submitted. In this respect, the provider may readily track pertinent information on data previously entered into the system of the present invention and determine status of currently pending claims.

As disclosed in Figure 4, within the maintenance activities 41, information regarding providers 41a, policy holders 41b, patients 41c, facilities 41d, user preferences 41e, payers 41f, enrollment 41g and users 41h may be entered or updated. As previously indicated, provider information which is stored in the lookup database 100 incorporates specific information regarding each of the healthcare providers and billing providers located within the system. Additional information regarding policyholders indicating those who are insured and other relevant policy information is also maintained within the lookup database 100. This information may be linked specifically to patient information and payer information, payer information indicating the insurance responsible for payment of claims to the patients. Further, as previously indicated and shown in Figure 4 within the lookup database, facilities, preferences, and other information may be added or updated within the system 10 in order to implement proper billing of claims. All of these functions are available within the maintenance activities, the selection which may be inserted into the sample web pages of Figures 13-15.

Once the adequate database 100 information has been entered within the lookup database 100 for all relevant providers and patients, claim entry is made relatively easy and the functions appropriate for entry of claims into the claims database 200 are shown under claim activities 42 of Figure 4. These include entry of new claims 42a, review of unsubmitted claims, review of claims 42b in which assistance may be required 42c and the allowance of searching through previously entered claims to determine the status of those

entries or review information retained therein 42d. Again, these functional features provided by the system of the present invention are merely exemplary and additional functions for claim submission and review may be implemented by one of ordinary skill in the art given the teachings of this disclosure.

As can be determined from the structure of the functional features dealing with claim activities 42 of Figure 4, it is apparent that upon selection of the claims functions within the system of the present invention, the user may select to obtain or review all unsubmitted claims 42b as is depicted in the sample web page of Figure 17. As can be seen, all incomplete claims 222 or unsubmitted claims 224 are displayed for review by the user and are available for action. In correspondence with the flow chart schematic shown in Figure 16, it is apparent that the user may select the claim function at step 300. The system of the present invention will then review the claims database 200 and display from the claims database all incomplete claims 222 at step 302. Further, the system of the present invention will review all unsubmitted claims from the claims database and display those for the user to review at step 303. An example of this type of display is shown in Figure 17. As can be seen, each of the incomplete 222 or unsubmitted claims 224 are available for action by the user and the system determines if any claim is selected by the user at step 3 or 4. The system will then allow any action selected on the specific claims which includes viewing the specific claim information, editing the claim information, reviewing the claim history table entries for the claim and deleting the claim. If any claims are selected for submission as is depicted in step 306, the system will submit the claims to the clearinghouse 50 for review of the requisite information and for later submission to third party payers or clearinghouses. These claims will be submitted at step 307 and at step 308 the individual claim history record within the claim database 200 will be updated.

Returning now to the initial entry of specific patient information, as shown in Figure 6, the procedure for a patient set up is shown. Overall, at step 70, the user may enter the patient set up area 41c of the maintenance activities 41 tasks and select to add a new patient record at step 72. An example of such a web page is shown in Figure 15 as previously indicated. All relevant data may be entered into the system at step 74 as well as connection of the patient information directly to specific insured policyholder information and payer information also contained within the lookup database 100. All of this information is indicated in the tables shown in Figure 2 and the entries in the various tables may be linked to



various other entries in tables contained therein to display the relevant information shown in Figure 15. This includes linking the patent record with a payer record as indicated at step 76.

Once the proper patient information is entered into the lookup database 100, the exemplary provider setup procedure is depicted in Figure 7. In connection with the exemplary webpage shown in Figure 12, the provider set up procedure may be entered by the user and a new provider may be initiated within the lookup database 100. The system of the present invention requests particular information for each provider such as whether the provider is the billing, referring or other selections as is depicted at 227 and as previously described. Once the relevant information has been entered, the user may enter the relevant provider information 228 for storage of the provider data within the lookup database 100 and specifically within the provider information table 104. The system of the present invention will review all entered information to determine and ensure that all of the adequate information within the provider information table 104 is appropriately entered.

As indicated in Figure 7, the provider set up procedure mandates or requires entry of requisite information for the claims submission process. All of this information is stored within the lookup database 100 through the various tables located thereon. Thus, upon entering the provider set up process 80, the user may select to add a new provider at step 82. The appropriate position (s) of the provider may be entered, as depicted in Figure 12 as 227, and then the user may enter the provider data 228 into the database at step 86. The system will then review the data for accuracy and errors at step 88.

Turning to figure 8, setting up the payor and policyholder information is required before claim entry is allowed. The policyholder menu may be selected as is depicted at step 90 in Figure 8 and a list of all policyholders for the particular provider may be displayed. The provider may select to add a new policyholder and thereby provide all of the relevant information for the policy holder needed for creation of a policy information record in the policy holder table 106 of Figure 2.

An example of the web page for adding a new policy holder is displayed in Figure 18. As can be seen, fields for all of the requisite policyholder information 229 are provided for entry by the healthcare provider. In correspondence with the schematic of Figure 8, data may be entered at step 93 and then the system will determine if a patient record for this policyholder is to be created at step 94. It is apparent that there are corresponding functions available for selection by the user in the sample web page shown in Figure 18. Upon addition

of a new policy holder, the system of the present of the present invention will request at step 96 whether or not to add a payer or insurance to the policy holder which was just entered. Thus, upon entry of the appropriate payer or insurance information, the system of the present invention will then link the payer to the policyholder which was just entered as is depicted in the sample web page of Figure 13. As can be seen, the system of the present invention maintains a list of all payers for the provider and allows the user to simply pull the appropriate payer information from a pull down menu. Thus, the policy information record entered into the policy information table 106 will be linked to appropriate payer data in the payer data table 112.

Turning to Figure 9, the claims selection tab by the user, as is depicted schematically in Figure 9, allows the user to select functional actions such as adding new claims 122, reviewing unsubmitted claims 124, reviewing claims wherein action is required at step 126 or searching through the entered claims at 125. Representative example of the claims functional menu is shown in Figure 14 wherein the add new claim information has been selected. However, as may be seen, all functions are available for selection by the user.

In entering new claim information as is depicted in Figure 14 and schematically in Figure, the system 10 of the present invention provides pull down menus for various fields 230 at step 130. These fields as indicated in Figure 14 may include the provider field, patient field, rendering physician, facility, referring physician and supervising physician, among various potential selections. At step 132, if a new provider is selected, new provider information as is depicted in Figure 12 may be entered. However, assuming all relevant information has previously been entered into the lookup database 100, the user may simply select from the various pull down menus 230 depicted in Figure 14 in order to make entry of claim data relatively easy.

The system of the present invention will therefor obtain relevant claim information 231 and also obtain specific detail information 232 at step 134 as is further depicted in Figure 14 and Figure 10. Information entered into the relevant fields of the claim database and tables depicted in Figure 3 may be reviewed immediately in real time to determine the validity thereof at step 138 or, alternatively, may be reviewed after the user has selected to save the entered information. If information entered by the user appears to have problems with validity, the system will note such problems and indicate to the user, as is shown in Figure 14 in field 233, that there are field errors in the entered data. Thus, changes to the data

entry will be prompted by the system of the present invention for the user to make. If the user has requested that the data be saved at step 144 then the system will combine all claim data into a record table within the claims database 200 at step 146 and then mark such claim entry as unsubmitted but saved. The user may then, at a later date, submit the saved claim data to the internal clearinghouse 50 for review and further retransmission to either a third party clearinghouse or third party payer. Once the saved claim has been elected by the user to be submitted to the clearing house 50, the record will be forwarded to the clearing house at step 148 for further processing and data review.

In review of the general claim entering process, as is depicted in Figure 11, the claim entering process 150 is comprised of allowing the system to pull relevant information from the lookup database at step 152 and providing that information to the user for review. The user may then enter the appropriate claim data at step 154 and the system may review the data for accuracy at step 156 in real time. Such real time review may be limited or may be extensive through the integration of a rules set for data validity or the existence of required data alternatively real time data checking may be rather extensive by integration of the rule set existent in the clearinghouse 50. As can be appreciated, the rule set for valid claim data within the clearinghouse 50 may be rather extensive and insures the adequacy of all data and proper formatting for later submission to third party clearinghouse or payors. Thus, after review of the claim data for accuracy at step 156, the user may save the claim data to the claim database 200 at step 158. All the stored claim records within the claim database 200 may then be reviewed by the healthcare provider at a later time for submission to the clearing house and for subsequent payment. Thus, if the user were to select the unsubmitted function within the claims area of the system of the present invention, a listing of all unsubmitted claims will be displayed for review by the provider. All unsubmitted and saved claims may also be displayed at step 160 and the user may then elect to submit each claim as appropriate for processing at step 162, as is depicted in Figure 17 or may act upon those claims listed as previously described.

Utilizing the system 10 of the present invention depicted in Figure 1b sensitive information may be stored requiring appropriate encryption for data security. As is well known in the art, secured socket layer technology may be utilized at the web browser interface 14 to provide multi-bit encryption. Further, a secondary layer of security may be utilized allowing the healthcare provider access to the web site server and the various data

bases associated with only their user ID and prespecified password. Further, data in the various databases 20 stored on the system of the present invention may be fully encrypted on the database storage device so that inadvertent access through the internet connection would be insufficient for viewing the contents of the databases 100 and 200. Encryption of the data stored on the server 18 thereby insures a triple layer of security for the data and the healthcare provider claim information stored on the system 10 of the present invention.

Claim information stored in the claim database 200 and submitted to clearinghouse 50 may be formatted for the clearinghouse into the required formatting perimeters defined by the third party clearinghouses 39 or payers 38. Internal claim submission clearinghouse 50 will review all of the claims for missing or incorrect information, as previously indicated, and thereby submit those claims directly to the payer 38 and clearinghouse 39. The electronic submission of these claims increases the efficiency of service provided not only by the healthcare provider but also by the third party payers. Additionally, through electronic submission of claims, the turn-around times between submission of claims and ultimate payment to the provider may be reduced significantly.

Claim data which is formatted by the clearinghouse 50 and forwarded onto the third party clearinghouse 39 or payer 38 may be incorrect or contain missing information. The third parties 38 and 39 may then reply to the internal clearinghouse 50 via e-mail or other electronic communication in order to notify the provider that additional information is required for specific claims. The system 10 of the present invention readily accepts these electronic communications from the third parties 38 and 39 in order to recontact the provider and obtain the requested information. Particularized request for claim information will be forwarded to the provider in order to obtain further information to correct the claim data, as is depicted in Figure 17 with the display of incomplete claims 222. Electronic communication of problem claim data also increases the efficiency of the claim submission process and allows incorrectly entered claims to be corrected and resubmitted with relative ease. This is especially the case since claim histories for each claim and for particular payers are stored in the claims database 200 and are readily available by the healthcare provider. Thus, each claim entry within the claim database 200 contains a history status field indicating the current status of the claim and whether or not a response has been received by the third parties requesting additional information and requiring intervention by the healthcare provider.

All of the screens for claims submission, insurance submission, provider information and payer information as well as the other data previously outlined are available to the healthcare provider through a generic internet web browser. The freedom of the healthcare provider to utilize an existing internet service provider as well as standard web browser interface software provides a significantly less expensive system for the healthcare provider to utilize in electronic claims submission. Further, adjustments to the software or to the interface may be done solely on the webserver 18 and therefor not require upgrade software to be provided to the ultimate users.

What I claim is:

1. A health care provider claims tracking and submission method using an open computer network and a database accessible through said open computer network, comprising the steps of:

- receiving healthcare provider information through said open computer network;
- storing said health care provider information on a computer system;
- utilizing said healthcare provider information to define a profile for said provider;
- receiving policyholder information for a plurality of insurance policyholders from said provider;
- obtaining patient information from said health care provider for a plurality of patients;
- associating said patient information with at least one responsible policyholder information;
- allowing said healthcare provider to submit healthcare claims for any of said patients to said computer system through said open network.

2. The method of claim 1 further comprising:

- electronically submitting said healthcare claims for each of said patients to a third party payment system responsible for payment of each of said claims.

3. The method of claim 1 in which the step of receiving healthcare provider information comprises:

- allowing said provider to enter healthcare provider information for a plurality of healthcare providers associated with said profile;
- defining the capacity of each of said healthcare providers within said profile.

4. The method of claim 3 further comprising:

- obtaining facility information for said healthcare provider for at least one facility;
- linking said facility information and said healthcare provider information to said profile;
- storing said at least one facility and said healthcare provider information on said computer system.

5. The method of claim 1 in which said user profile is associated with a user identifier and password.

6. The method of claim 1 in which the step of receiving policyholder information for a plurality of patients from said provider comprises:

- defining said policyholder and a responsible third party insurance company payer;
  - storing said policyholder information on said computer system.
7. The method of claim 4 in which the step of obtaining patient information from said healthcare provider for a plurality of patients further comprises:
- adding a patient record on a database on said computer system;
  - entering patient data for said patient into said patient record;
  - defining a responsible third party payer for said patient from at least one of said policyholders.
8. The method of claim 1 in which the step of allowing said healthcare provider to submit healthcare claims for any of said patients to said computer system through said open network comprises:
- creating a claim record for each of said claims being entered into said system;
  - obtaining particularized claim information for said claim including at least one of said plurality of patients;
  - associating said claim record with said profile.
9. The method of claim 8 further comprising:
- validating said particularized claim information for said claim;
  - providing information to said healthcare provider indicating the validity of said particularized claim information.
10. The method of claim 9 wherein said step of validating said claim information is done in real time.
11. The method of claim 9 wherein said step of validating said claim information is completed by a clearinghouse system.
12. The method of claim 11 wherein said clearinghouse system receives said claim information in batch mode.
13. The method of claim 11 further comprising the steps of:
- allowing said healthcare provider to submit said claim information to said clearinghouse system;
  - redirecting said claim information to a responsible insurance company if said claim information is valid, said insurance company determined from said associated policyholder information.
14. The method of claim 13 further comprising:

- requesting additional valid information from said healthcare provider if said claim information is determined to be deficient;
- indicating on said system when said healthcare providers uses said system that said claim record contains deficient information;
- allowing said healthcare provider to resubmit said claim to said clearinghouse.
15. The method of claim 13 further comprising:
- receiving information from said responsible insurance company on the status of said claim;
- storing said status information in said claim record.
16. The method of claim 15 further comprising:
- allowing said healthcare provider to determine the status of each of said claims.
17. The method of claim 15 further comprising:
- tracking all actions for each of said claims;
- storing said actions in said claim record;
- allowing said actions and said status for each of said claims and stored in said claim record to be viewed by said healthcare provider.
18. The method of claim 8 wherein said computer system has a lookup database and a claims database, said lookup database containing said healthcare provider information, patient information and policyholder information and wherein said claims database contains all of said data on each of said claims.



Figure 1a

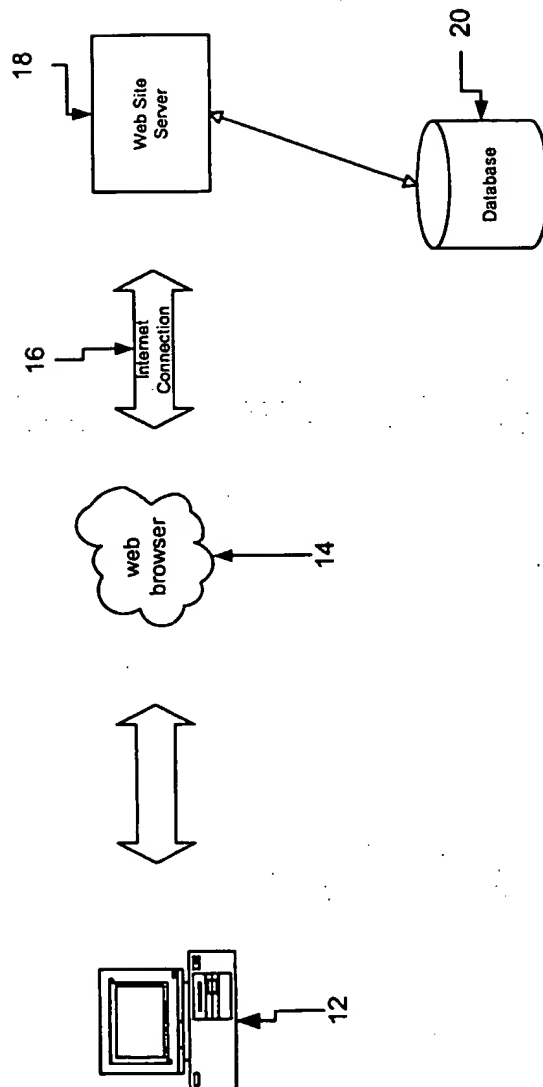


Figure 1b

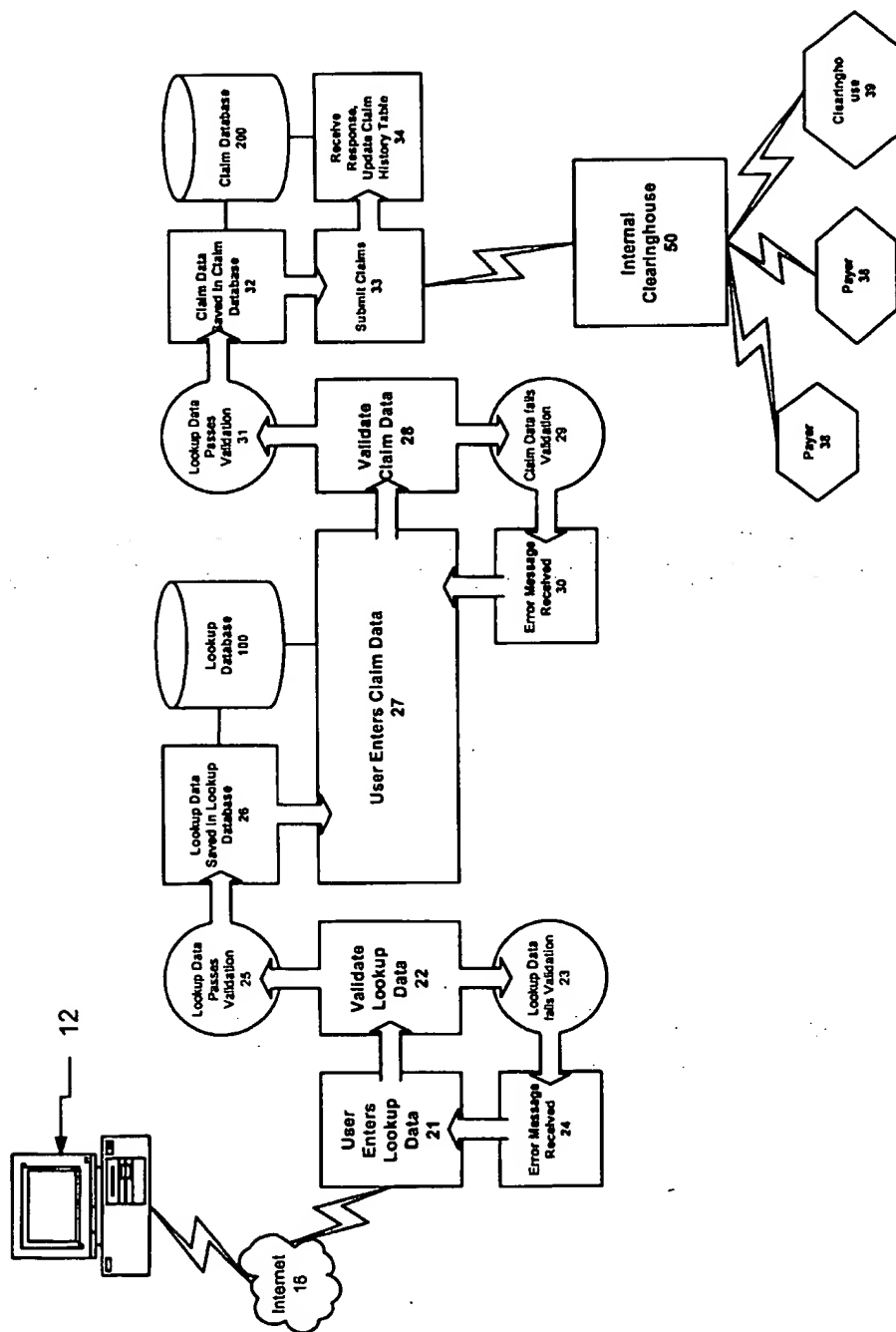


Figure 2

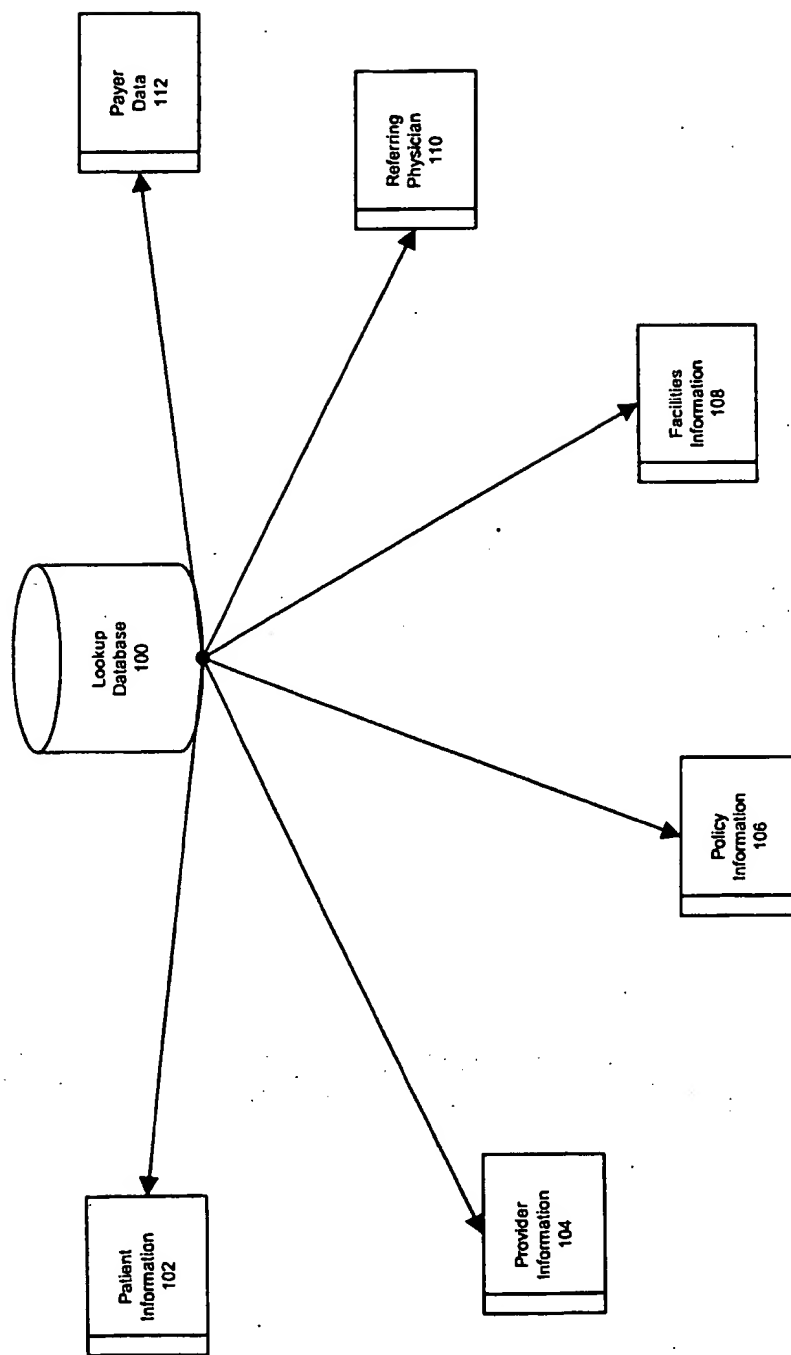


Figure 3

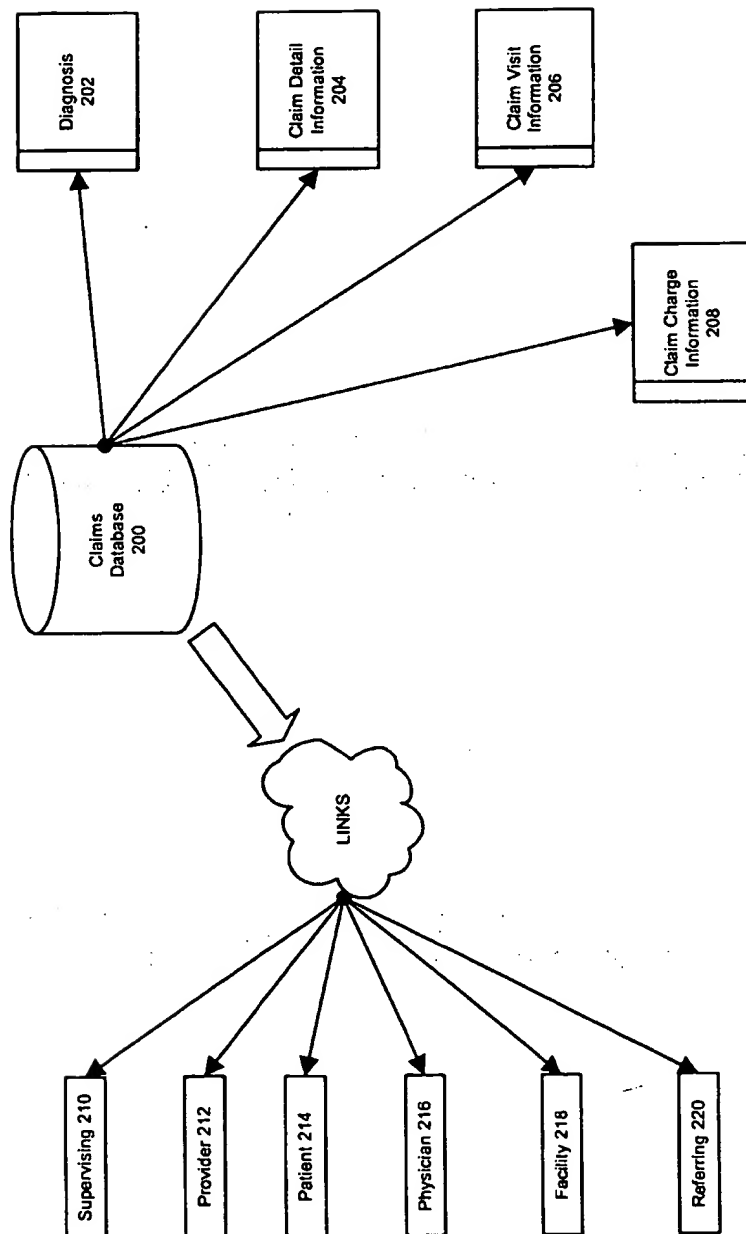


Figure 4

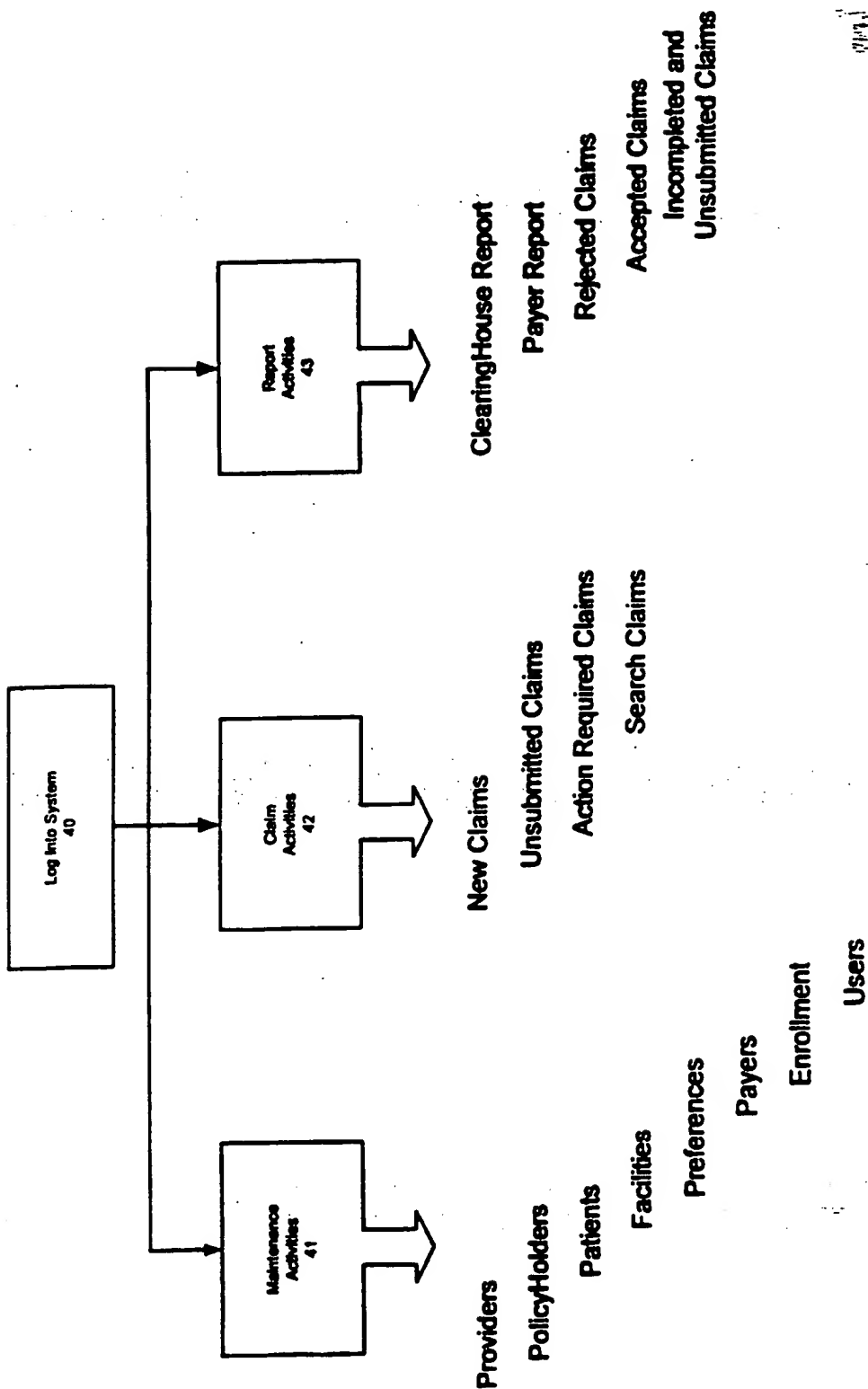
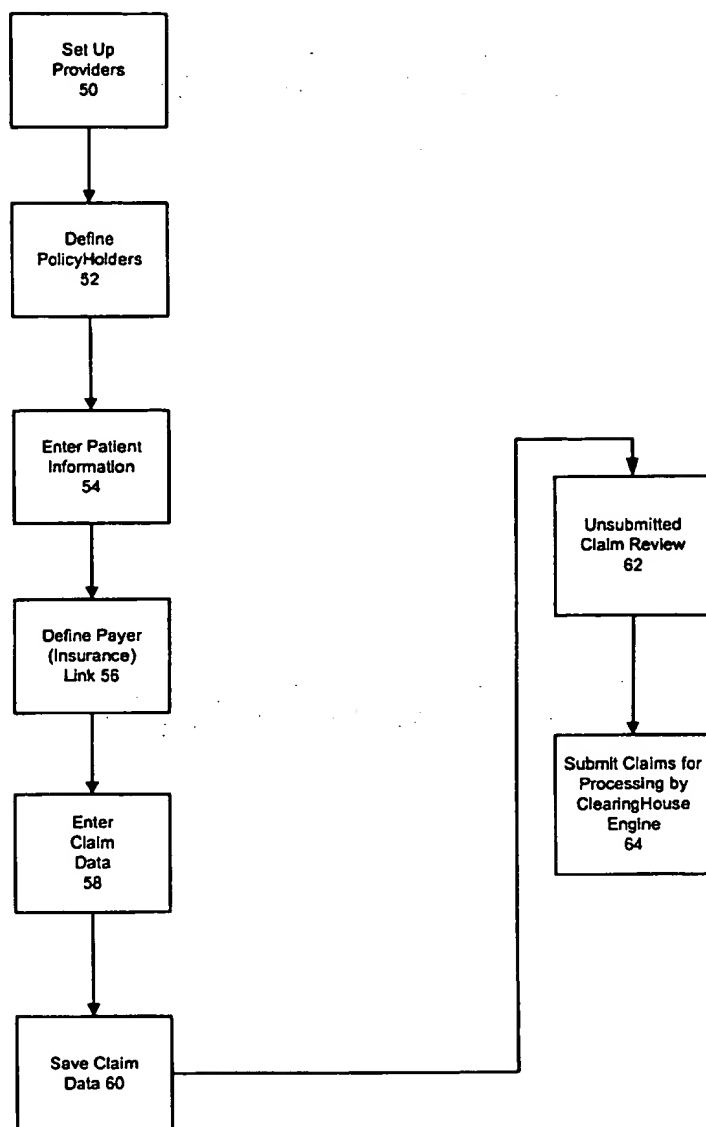


Figure 5



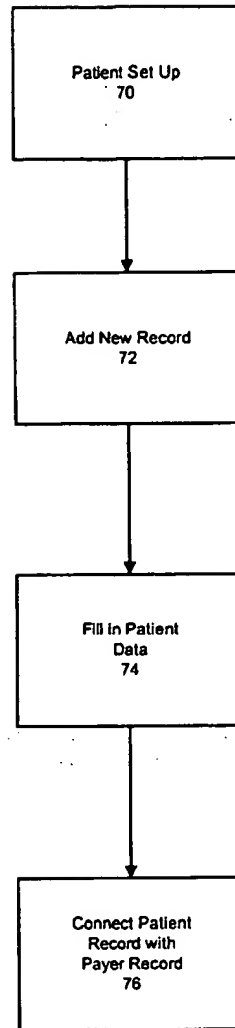


Figure 6

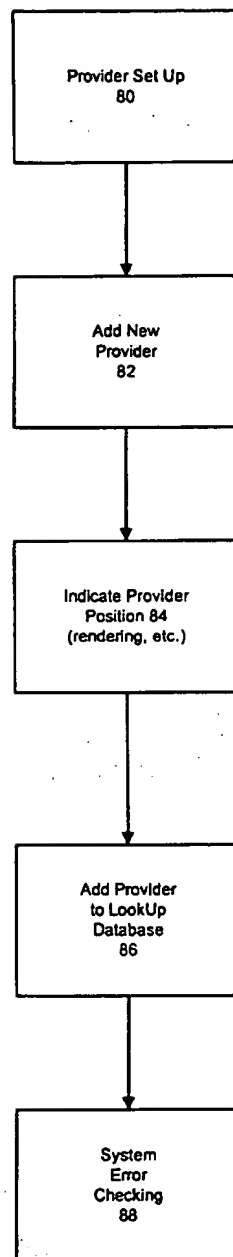


Figure 7



Figure 8

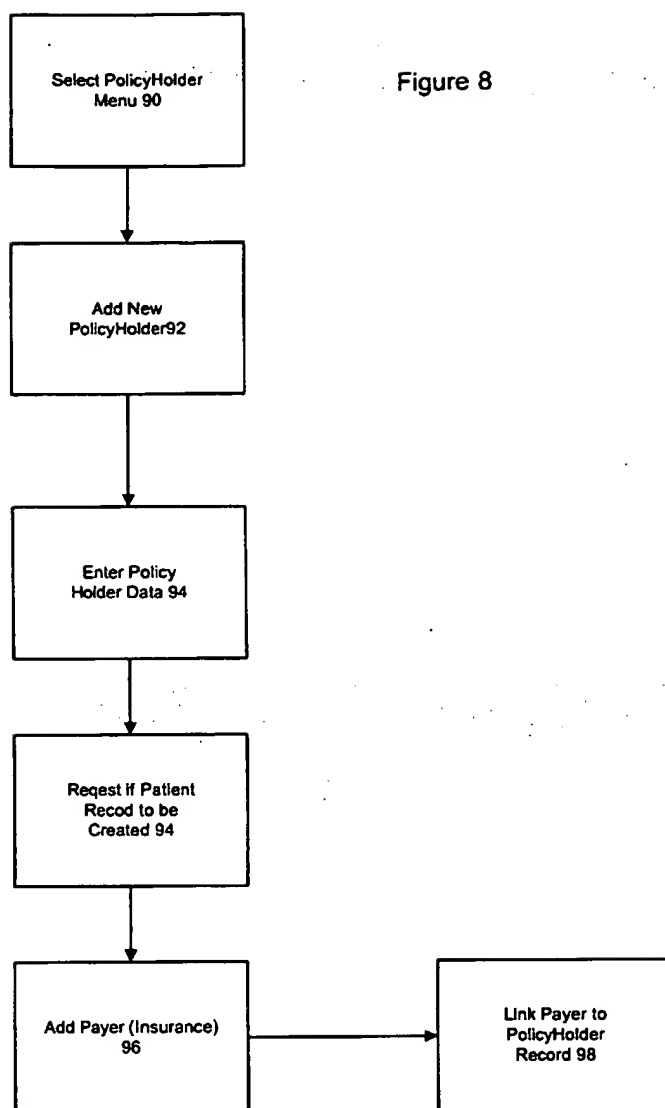


Figure 9

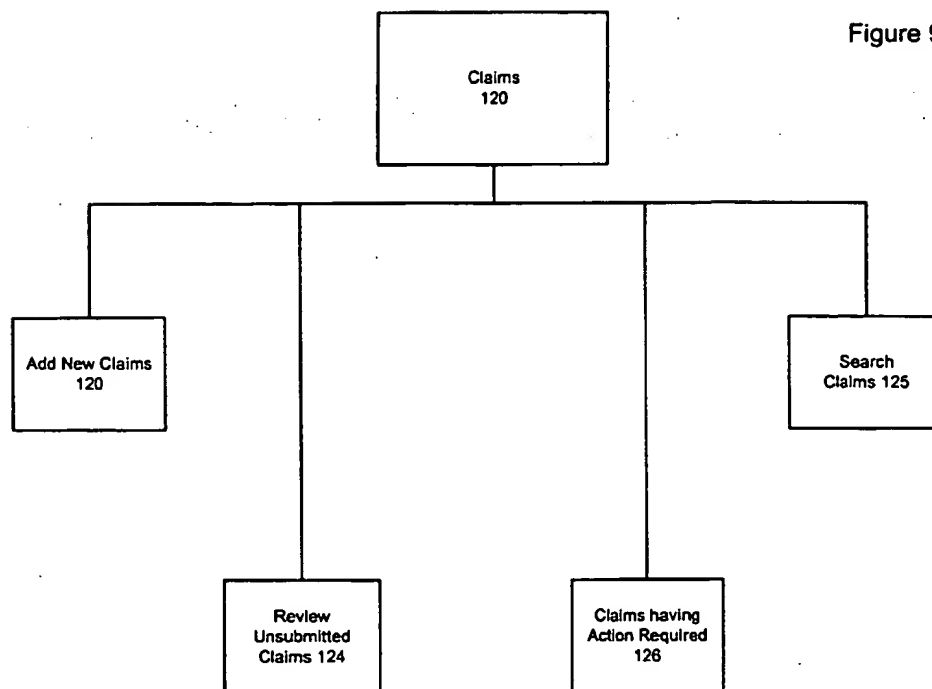
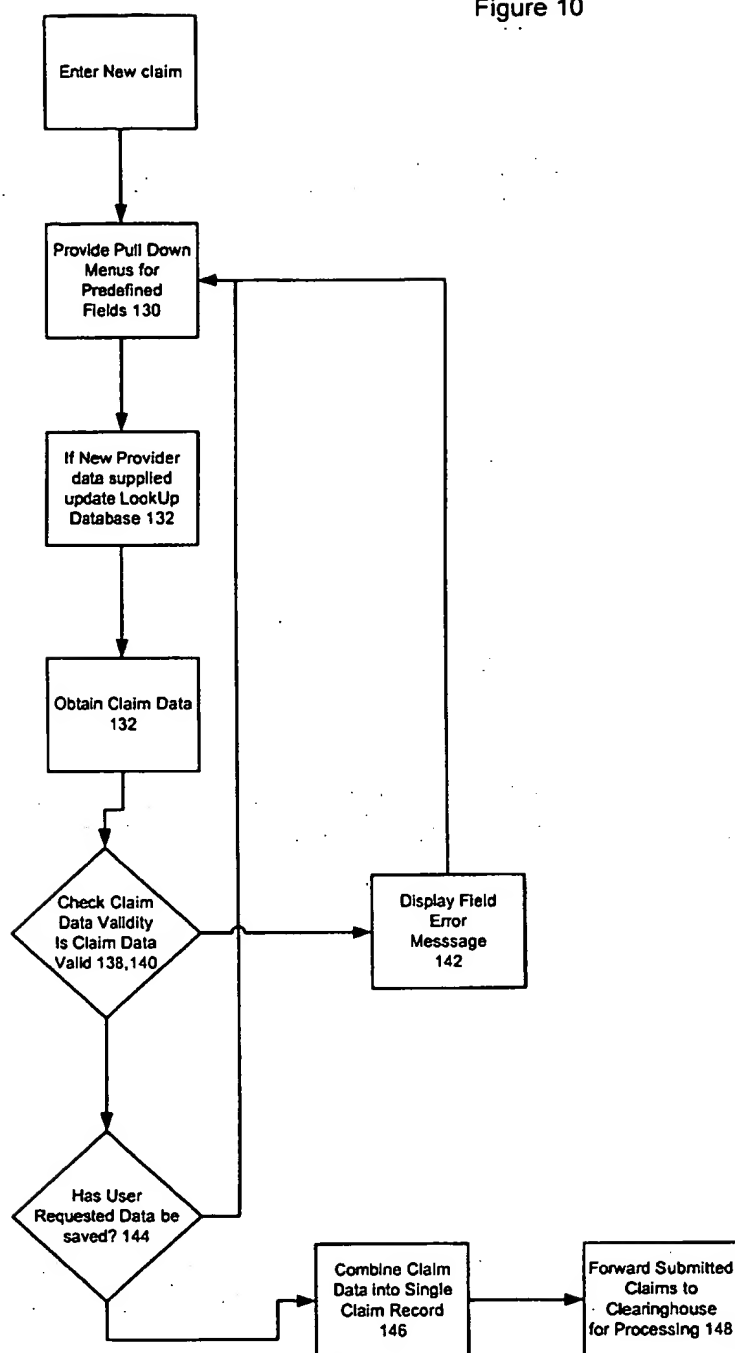


Figure 10



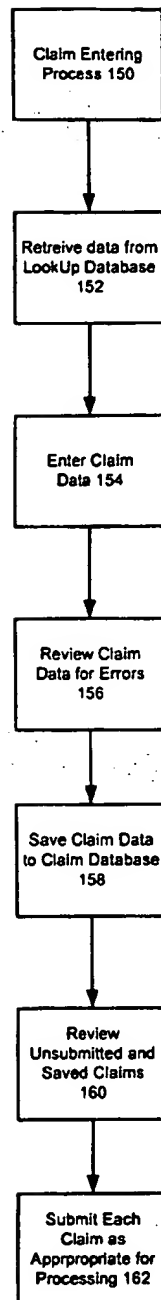
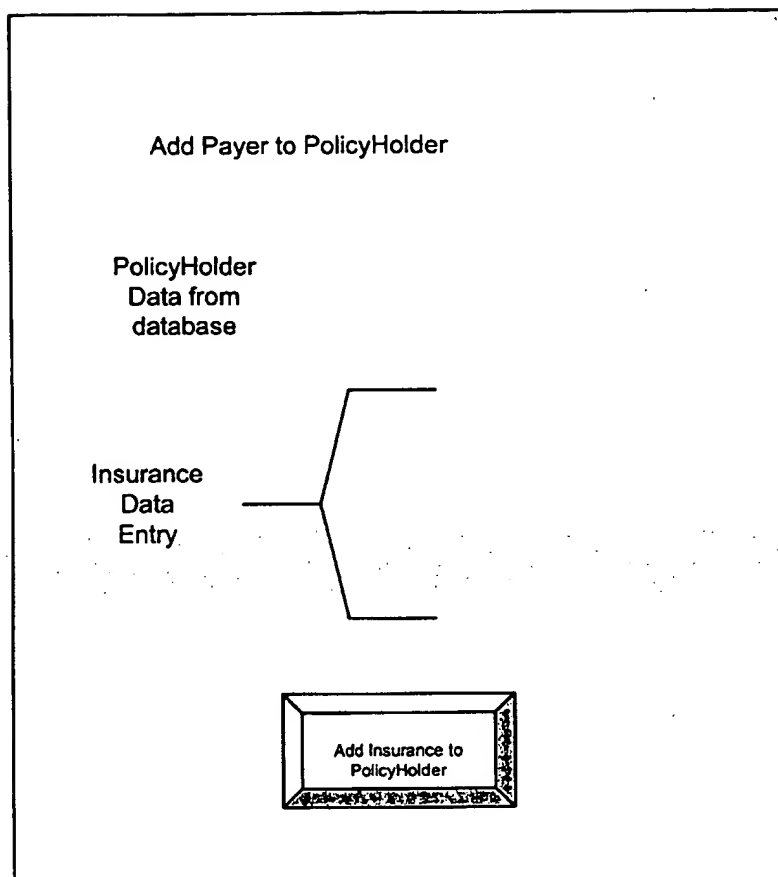


Figure 11

Figure 13



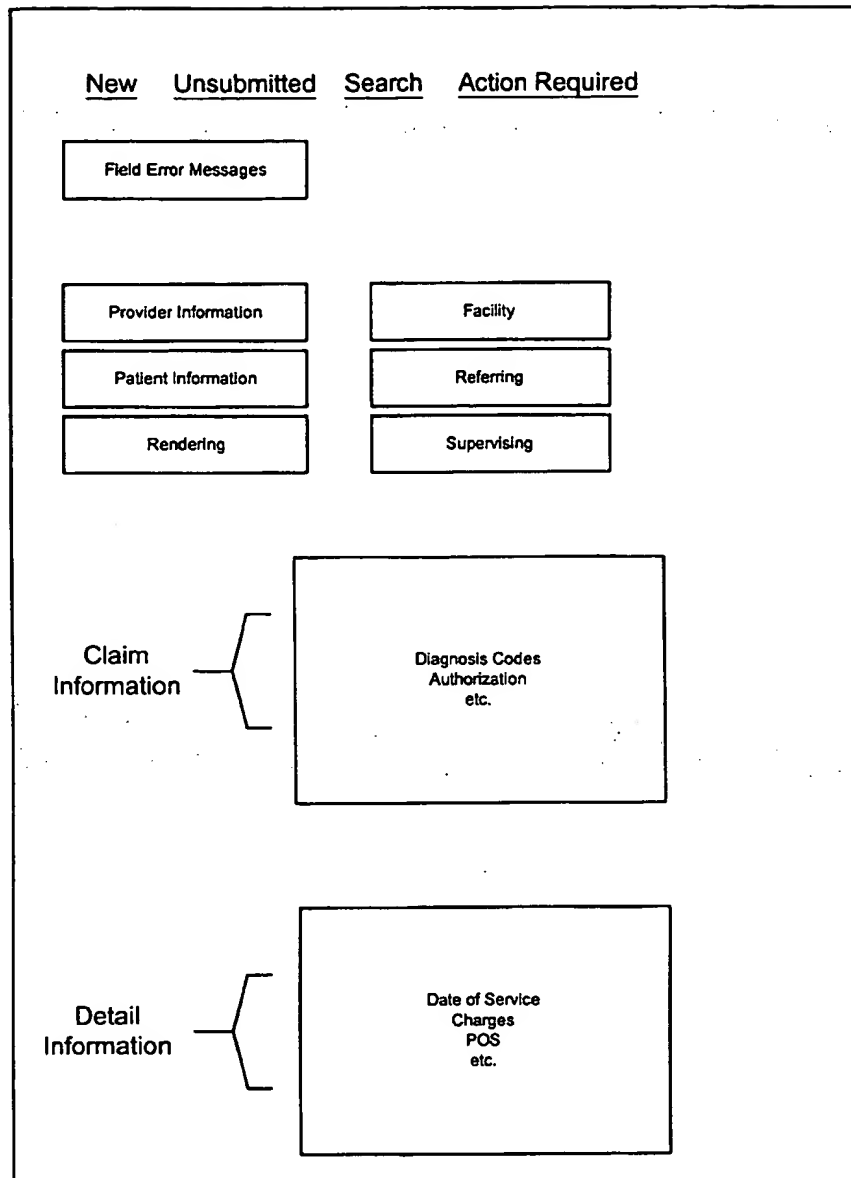


Figure 14

Add New Patient

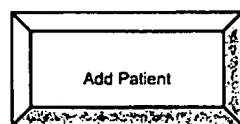
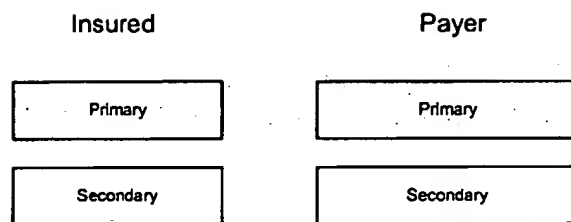
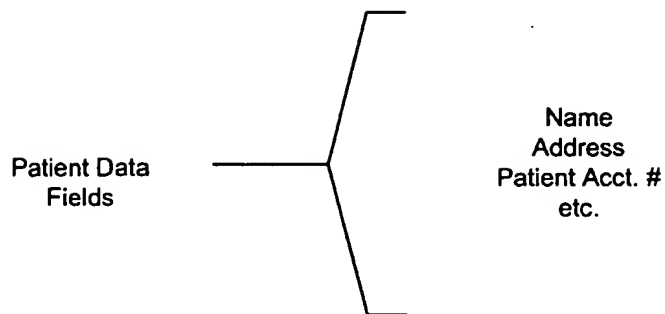
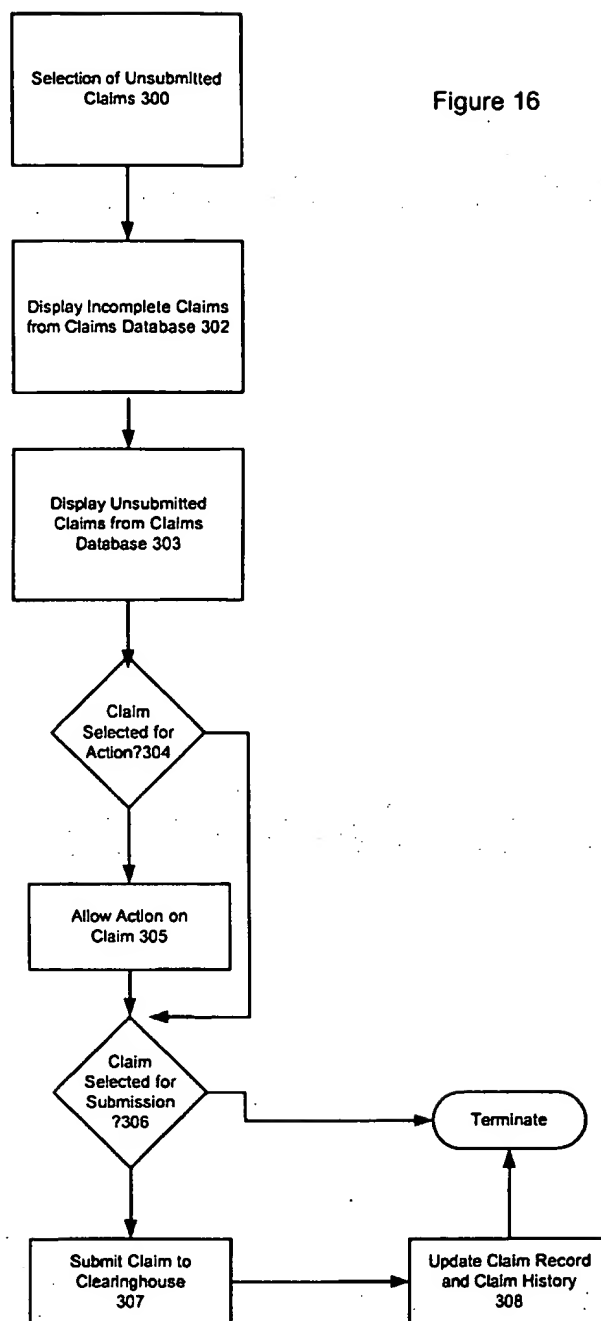


Figure 15

Figure 16





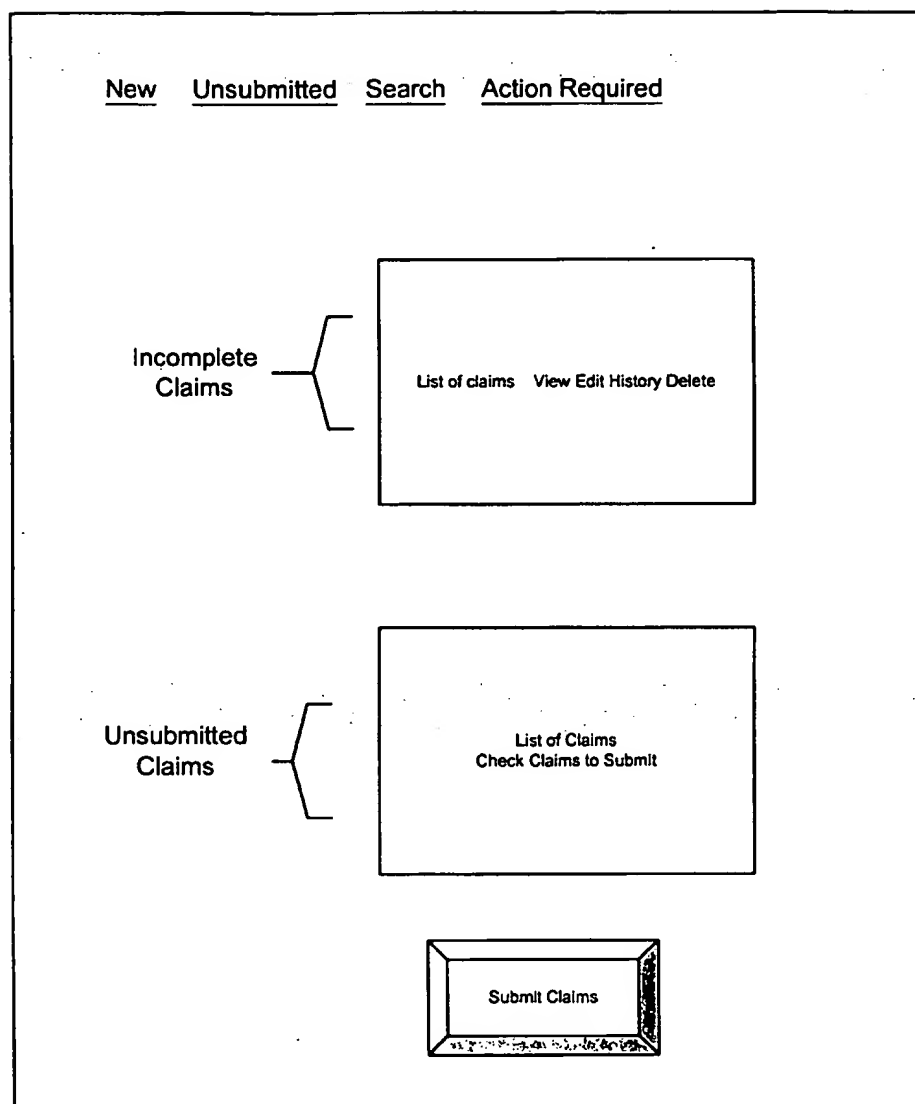
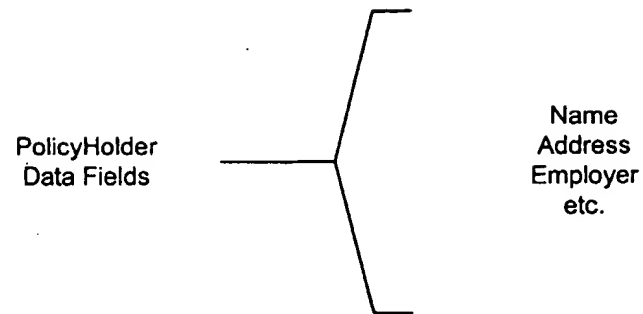


Figure 17

Add New PolicyHolder



Automatically Create Patient with same information?

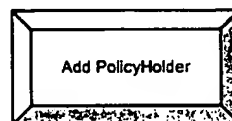


Figure 18

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US00/11429

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) :G06F 17/60

US CL :705/2

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 705/2,3,1,500

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EAST, WEST, STN

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4,858,121 A (BARBER et al) 15 August 1989, Abstract, 2nd col., lines 8-20, col. 1, line 63-col. 2, line 6, col. 3, lines 42-47, col. 4, lines 11-30, col. 6, lines 29-37, col. 14, lines 51-col. 15, line 2, col. 15, lines 33-59, col. 16, lines 30-38, Fig. 1.	1-3, 6, 8-10, 18
-----		
Y		4, 5, 7, 11-17
Y,P	US 5,930,759 A (MOORE et al) 27 July 1999, col. 4, lines 43-57, col. 5, lines 14-241 and lines 52-65, col. 7, lines 13-24, col. 14, lines 62-64	4, 7, 11-17
Y	US 5,550,734 A (TARTER et al) 27 August 1996, col. 26, lines 48-58	15-17



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
*A* document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
*B* earlier document published on or after the international filing date	*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
*L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*A* document member of the same patent family
*O* document referring to an oral disclosure, use, exhibition or other means	
*P* document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

04 AUGUST 2000

Date of mailing of the international search report

28 AUG 2000

Name and mailing address of the ISA/US  
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## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US00/11429

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,823,948 A (ROSS, JR. et al) 20 October 1998, col. 6, lines 60-64	5